



Soil types and water filtration

Overview and Objective

Good growing soil has organic material in it, which acts like a sponge to help capture water for plants to use.

In this experiment, we are going to find out how quickly water drains through three different types of soil: one heavy with sand, a potting soil, and soil heavy with clay.

What you will need:

- 3 2-liter bottles, cut about 1/3 of the way down
- 6 coffee filters
- ~1 cup sand
- ~1 cup soil heavy with clay
- ~1 cup potting soil
- 3 cups water
- Timer

Process:

1. Cut 3 2-liter bottles about 1/3 of the way down from the top. Flip the top portion over and rest it inside of the bottom to make a sort of filter.
2. Place a coffee filter inside of the top bottle and then put about 1 cup of the soil into the bottles (1 with sand, 1 with soil heavy with clay, and 1 with potting soil).
3. Open up 3 more coffee filters, placing one over each bottle with sample to help with even coverage and to avoid splashing.
4. Get your timer ready!
5. Pour a cup of water into each bottle and start your timer.
6. Time how long it takes each cup of water to filter through the samples.



Share your experiment results with us!

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Observations:

Which took the longest to drain?

What kind of soil do you find in your house or outdoor plants?